

What is claimed is:

1. A carpet stretcher comprising:
 - an engaging head comprised at a front end of the carpet stretcher that engages a carpet;
 - 5 a sliding member that is connected to a rear end of the engaging head to move the engaging head back and/or forth within a predetermined space;
 - a housing unit that covers the sliding member;
 - a driving unit that drives the sliding member; and
 - 10 a carpet fixing unit to push and fix the carpet,
 - wherein, while the carpet is fixed by the engaging head and the carpet fixing unit, the sliding member is moved a predetermined distance by the driving unit, and the engaging head forwards a distance that is equal to the distance by which the sliding member is moved, stretching the carpet.
- 15 2. The carpet stretcher of claim 1, wherein the driving unit is a pneumatic driver.
3. The carpet stretcher of claim 1, wherein the driving unit is an electric driver.
- 20 4. The carpet stretcher of claim 1, wherein the driving unit comprises:
 - a cylinder;
 - a piston; and
 - 25 a control unit controlling movement of the piston.
5. The carpet stretcher of claim 4, wherein the piston comprises:
 - a first member oscillating back and forth in the cylinder; and
 - 30 a second member disposed outside the cylinder in connection with the first member.
6. The carpet stretcher of claim 5, wherein the first member is connected to the second member to be movable back and/or forth in a longitudinal direction of the first member.

7. The carpet stretcher of claim 5, wherein the second member is connected to the sliding member and moves the sliding member when the first member oscillates back and forth.

5 8. The carpet stretcher of claim 5, wherein the piston further comprises a third member connected to the second member, the third member impacting and pushing the sliding member when the first member moves.

10 9. The carpet stretcher of claim 8, further comprising an impact-buffering member on a surface of the third member opposite to the sliding member.

15 10. The carpet stretcher of claim 4, wherein the control unit comprises:
an air compressor;
an air direction control valve; and
a trigger switch.

11. The carpet stretcher of claim 4, wherein the driving unit further comprises an electromagnetic coil generating an electromagnetic field in the cylinder, and the control unit intermittently supplies power to the electromagnetic coil to control movement of the piston.

20 12. The carpet stretcher of claim 11, wherein the control unit comprises:
a power controller that produces power of a predetermined magnitude to be supplied to the electromagnetic coil using power supplied from an external source;
25 and
a switching unit that intermittently supplies the electromagnetic coil with the produced power.

30 13. The carpet stretcher of claim 12, wherein the switching unit comprises:
a switch that is manipulated by a user to output a signal to instruct the electric carpet stretcher to operate; and
a power supply time controller that supplies the electromagnetic coil with the power produced by the power controller for a predetermined period of time in response to the signal.

14. The carpet stretcher of claim 13, wherein the **control unit** further comprises a power level adjuster that adjusts the magnitude of the power output from the power controller to one of two or more levels.

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15. The carpet stretcher of claim 14, wherein the power level adjuster comprises:

a power voltage divider that divides the magnitude of the power output from the power controller into the two or more levels and then outputs the power; and
10 a switch that is connected to an output port via which the power divided into the two or more levels is output.

16. The carpet stretcher of claim 1, wherein the engaging head comprises protrusions that are used to engage the carpet.

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17. The carpet stretcher of claim 1, wherein the engaging head comprises: engaging pins that engage the carpet; and
an engaging pin adjuster that adjusts an engaging depth of the engaging pins.

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18. The carpet stretcher of claim 1, wherein the carpet fixing unit comprises:

a carpet fixing unit body having a bottom plate touching the carpet;
a pivot that is installed on the bottom plate and adjacent to a rear end of the housing unit;
25 a fixing pin moving plate that is combined with the pivot to be moveable within a predetermined angular range;
a first spring that is interposed between the fixing pin moving plate and the bottom plate to elastically support the fixing pin moving plate; and
fixing pins that are located beneath an end portion of the fixing pin moving plate so as to fix the electric carpet stretcher to the carpet via a throughhole formed 30 in the bottom plate.

19. The carpet stretcher of claim 18, further comprising a knee-protecting member that is made of a soft material and installed on the fixing pin moving plate.

20. The carpet stretcher of claim 19, wherein the knee-protecting member comprises a concave portion that accommodates a knee of a user who operates the fixing pin moving plate.

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21. The carpet stretcher of claim 1, further comprising a second spring that provides the sliding member with a restoration force after the sliding member is moved the predetermined distance by the driving unit.

10 22. The carpet stretcher of claim 8, further comprising a third spring that provides a restoration force to the third member that has moved in its longitudinal direction by the driving unit.

15 23. The carpet stretcher of claim 1, further comprising a handle that is used to move the carpet stretcher.

24. The carpet stretcher of claim 1, further comprising a band that is installed on the carpet fixing unit to move the carpet stretcher.

20 25. The carpet stretcher of claim 1, further comprising a connection member connected to vary a distance between the driving unit and the carpet fixing unit.

26. A carpet stretcher comprising:
a main body including an engaging head that engages a carpet;
a carpet fixing unit, connected to the main body, pushing and fixing the carpet;
and
a connection member connected to vary a distance between the main body and the carpet fixing unit.

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27. The carpet stretcher of claim 26, wherein and end of the connection member is fixedly attached to the carpet fixing unit and the other end of the connection member is slidingly attached to the main body such that the length of the carpet stretcher can be varied.

28. The carpet stretcher of claim 26, wherein and end of the connection member is fixedly attached to the main body and the other end of the connection member is slidingly attached to the carpet fixing unit such that the length of the carpet stretcher can be varied.

29. An apparatus for controlling a carpet stretcher using an electromagnetic force generated by an electromagnetic coil, the control apparatus comprising:

10 a power controller that produces power of a predetermined magnitude to be supplied to the electromagnetic coil using power supplied from an external source;

a power level adjuster that adjusts the power output from the power controller to one of two or more levels; and

15 a switching unit that intermittently supplies the electromagnetic coil with the produced power.

30. The apparatus of claim 29, wherein the power level adjuster comprises: a power voltage divider that divides the magnitude of the power output from the power controller into the two or more levels and the outputs the power; and

20 a switch that is connected to an output port via which the power divided into the two or more levels is output.

31. The apparatus of claim 29, wherein the switching unit comprises:

25 a switch that is manipulated by a user to output a signal to instruct the electric carpet stretcher to operate; and

a power supply time controller that supplies the electromagnetic coil with the power produced by the power controller for a predetermined period of time in response to the signal.

30 32. A knee-protecting member for a carpet stretcher comprising a main body, which includes an engaging head engaging a carpet, and a carpet fixing unit, which is connected to the main body to push and fix the carpet, the knee-protecting member comprising a concave portion that accommodates a knee of an operator when the operator fixes the carpet fixing unit to and detaches the carpet fixing unit

from the carpet.